

TP-1 CFAC Soil Pit - TP1 0-24"



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ED_002345B_00008305-00001

TP-2 CFAC Soil Pit – TP2 0-28"



TP-2

225' W of boundary point 3, 40' E of big kettle hole

Slope < 2%, top surface of terrace/moraine

Fir & larch overstory, ninebark, snowberry, Oregon grape, pinegrass

- 0-1 duff, O horizon needles and leaves
- 1-4 silt loam; organic; common fine and coarse roots; 10-20% gravel & cobble (rounded); 10YR2/2 wet
- 4-11 irregular wavy boundary; clayey silt; common coarse roots; 30% gravel; slightly sticky/slightly plastic; 10YR2/2 wet; 10TR3/4 wet
- 11-28 clayey coarse sand; 50% gravel & cobble, rounded, cobble to 6"; 10YR6/4 wet

TP-2 CFAC Soil Pit – TP2 0-28"



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TP-3 CFAC Soil Pit – TP3 0-30"



TP-3

150' E of boundary point 17

Slope 25%; halfway down side of kettle depression

Larch overstory, mountain maple, snowberry, Oregon grape, rose, pine grass, narrow leaf bunchgrass

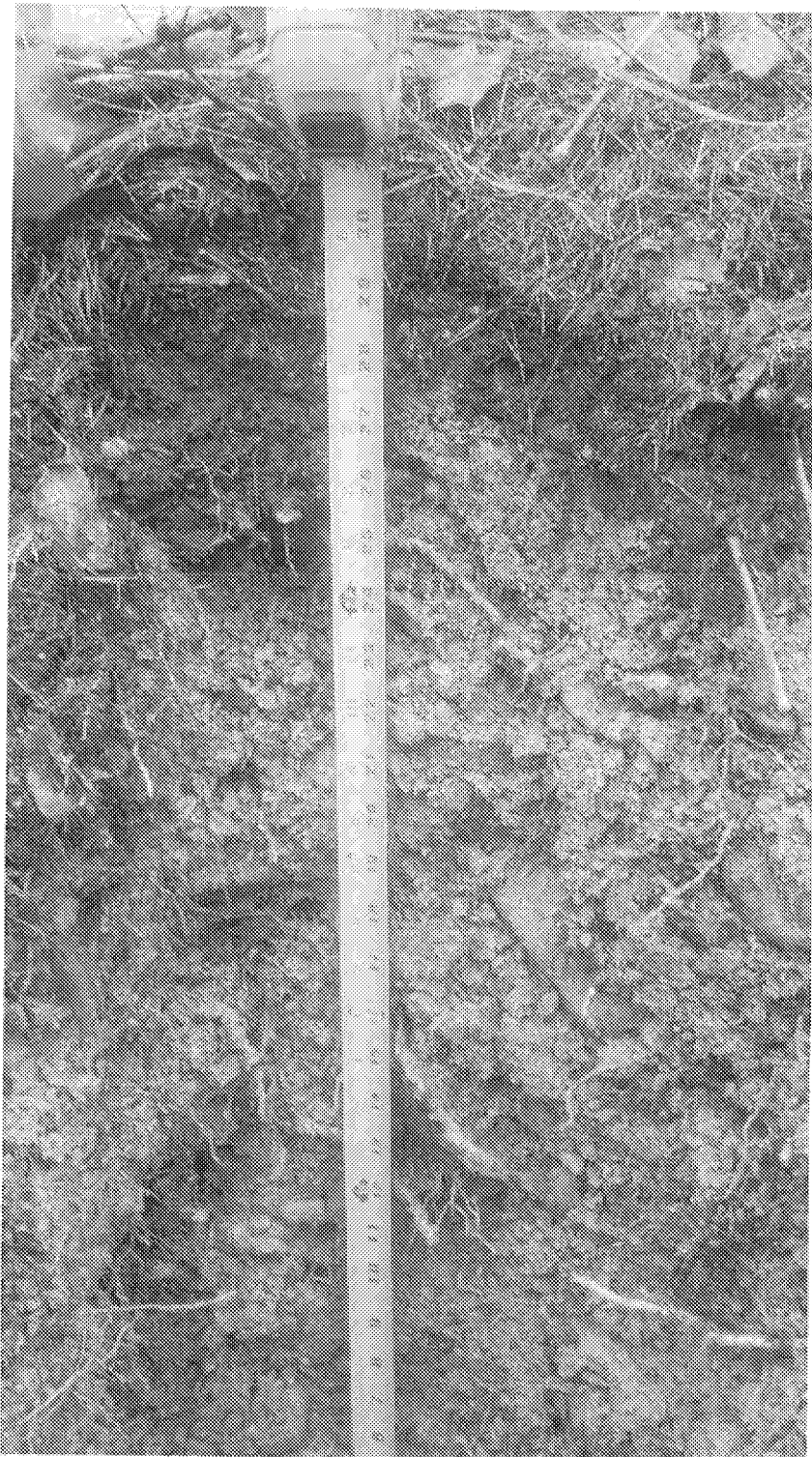
0-1 O horizon, moss, needle litter

1-3 silty loam; organic; many fine roots; occasional gravel; 10YR2/1 wet

3-14 extremely gravely sandy, silty clay; common coarse roots; > 50 % gravel & occasional cobble to 6" (rounded); 10YR5/2 wet

14-30 sandy, silty clay; sticky, plastic; occasional coarse roots, one large decayed root channel about 3" diameter; 50% gravel & cobble, rounded, cobble to 6"; 10YR5/6 wet

TP-3 CFAC Soil Pit – TP3 0-30"



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27-7—Dystric Eutrochrepts, till substratum

Map Unit Setting

National map unit symbol: nq3n

Elevation: 3,000 to 4,100 feet

Mean annual precipitation: 20 to 40 inches

Farmland classification: Not prime farmland

Map Unit Composition

Dystric eutrochrepts and similar soils: 90 percent

Description of Dystric Eutrochrepts Setting

Landform: Kames, kettles, terraces

Parent material: Till

Typical profile

Bs - 3 to 9 inches: very gravelly silt loam

2Bw1 - 9 to 18 inches: extremely cobbly sandy loam

2Bw2 - 18 to 31 inches: extremely cobbly sandy loam

2C - 31 to 60 inches: very cobbly loamy sand, very gravelly loamy sand, extremely gravelly sandy loam

2C - 31 to 60 inches:

2C - 31 to 60 inches:

Properties and qualities

Slope: 10 to 20 percent

Depth to restrictive feature: More than 80 inches

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Hydrologic Soil Group: A

Other vegetative classification: subalpine fir/dwarf huckleberry (PK640), Douglasfir/dwarf huckleberry (PK250)

Inceptisol

Ochrepts – ochric epipedon – light colored

Dystric – low base saturation

Description of Whitefish

Setting

Landform: Moraines

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Glacial till

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

E - 1 to 9 inches: cobbly silt loam

E/Bt - 9 to 14 inches: gravelly silt loam
Bt - 14 to 20 inches: gravelly clay loam
Bk - 20 to 33 inches: gravelly silt loam
C - 33 to 60 inches: gravelly silt loam

Properties and qualities

Slope: 30 to 70 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.3 inches)
Custom Soil Resource Report
20

TP-1

200ft N of boundary point 7
Slope 5-10%
Larch over story, mountain maple, service berry, ninebark, oregon grape, pine grass, moss

- 0-1 needle litter
- 1-3 silty loam; numerous fine roots; 20% gravel& cobble (rounded); 10YR2/1 wet
- 3-10 silty, clayey sand; numerous fine and common coarse roots; 50% gravel & cobble (rounded); 10YR 4/4 wet
- 10-26 silty, sandy clay; slightly sticky; few coarse roots; 50% gravel and cobbles; cobbles to 8" subrounded/rounded; 10YR6/6 wet

2 photos

TP-2

225' W of boundary point 3, 40 ' E of big kettle hole
Slope < 2%, top surface of terrace/moraine
Fir & larch overstory, ninebark, Oregon grape, pinegrass

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2 photos

TP-3

150' E of boundary point 17

Slope 25%; halfway down side of kettle depression

Larch overstory, mountain maple, Oregon grape, rose, pine grass, narrow leaf bunchgrass

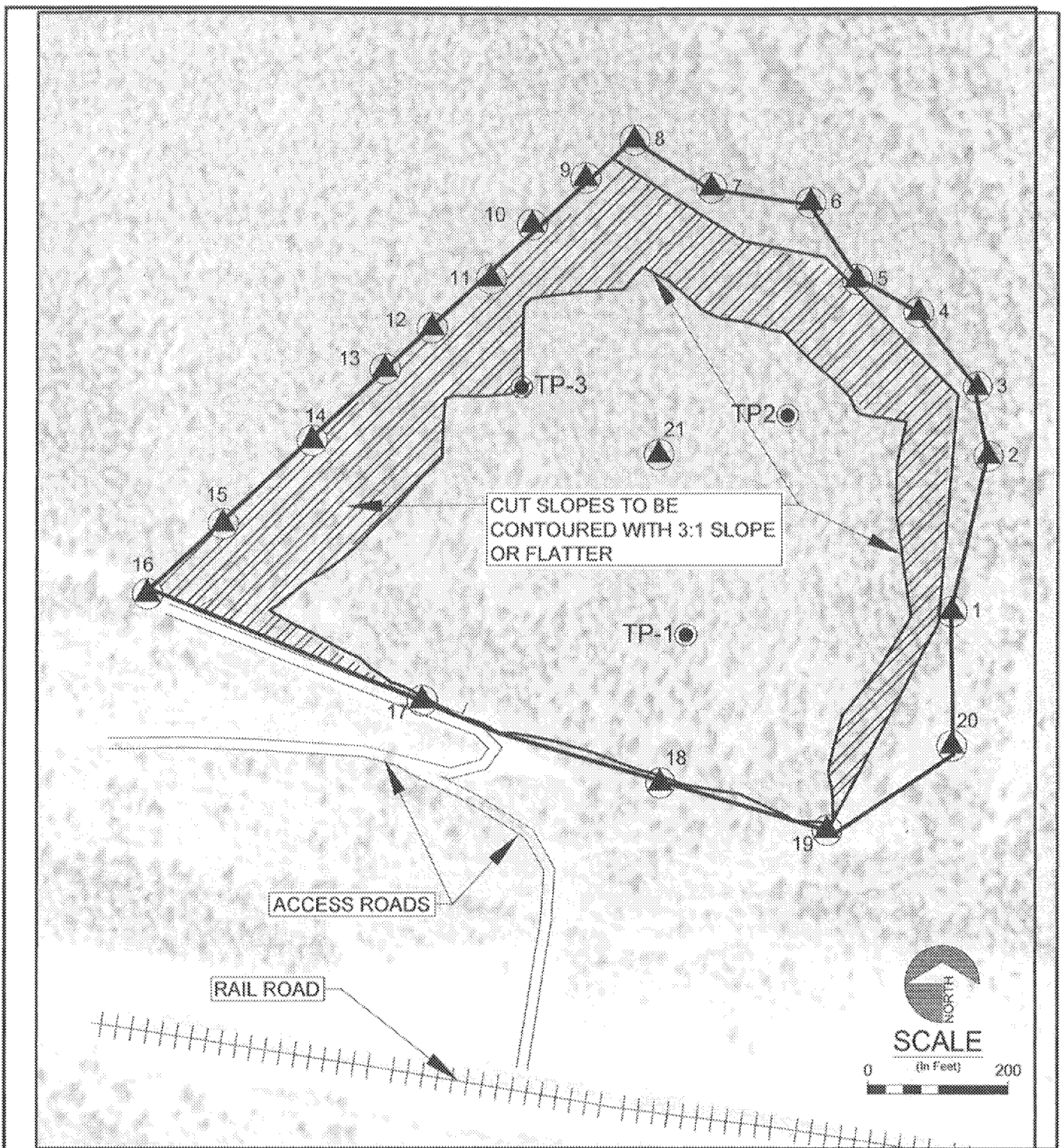
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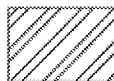
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2 photos



EXPLANATION



CUT SLOPE GRADED
TO A 3:1 SLOPE OR FLATTER

POINT ON PERMIT BOUNDARY 8▲

COLUMBIA FALLS ALUMINUM
COMPANY
OPEN CUT PERMIT APPLICATION

COLUMBIA FALLS ALUMINUM COMPANY
CFAC BORROW PIT RECLAMATION MAP
S1/2 SEC2 T30N R20W

FIGURE

UPDATE TIME: 10:05 AM
L:\JOHNSON\M90\20150520\F\DATA\CFAC\GRVL PRMT\14020 RECLAMATION.DWG

Hydrometrics, Inc.
Consulting Scientists and Engineers

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ZONING COMPLIANCE

In accordance with Opencut Mining Act sections 82-4-431(6) & 432(2)(b), sand and gravel operations must meet applicable local zoning regulations. As a result, this form is required unless the Operator is proposing to mine **bentonite, clay, scoria, peat, or soil**.

In accordance with section 17.24.223 of the rules implementing the Act, this form is required for a sand or gravel operation to apply for a **permit or an amendment adding acreage or changing the postmining land use.**

OPERATOR SECTION: All fields must be completed.

Operator: Columbia Falls Aluminum Company

Site: CFAC Borrow Pit

County: Flathead

Section(s) 2 & Township 30 ☒ North or ☐ South Range 20 ☐ East or ☒ West

Section(s) & Township ☐ North or ☐ South Range ☐ East or ☐ West

Notes for Operator: A) If box **3a** below is checked, the DEQ cannot approve the proposed Opencut mining permit or amendment application. B) If question **6** below is marked **Yes**, this submittal is not complete until the Operator provides a copy of the approved local license or permit.

LOCAL GOVERNING BODY SECTION: Complete all items unless so directed by *italics* below.

In accordance with section 82-4-432(2)(b) of the Opencut Mining Act and section 17.24.223 of the rules implementing the Act, **the local governing body having jurisdiction over the area to be mined must certify that the proposed mine site and Plan of Operation comply with applicable local zoning regulations** adopted under MCA Title 76, chapter 2. The certification must be submitted on this DEQ form.

1. The Operator has provided the local governing body with a site location map and a Plan of Operation for the proposed sand and gravel operation identified above: ☒ Yes or ☐ No If No, this form is not complete or acceptable.
2. Check **one** box:
- a. ☒ Site is **not** zoned.
- or
- b. ☐ Site is **zoned** as:

IMPORTANT: If box **2a** is checked, **skip** questions 3, 4, 5, & 6. If box **2b** is checked, **answer** questions 3 & 4.

3. For the **zoned** site, check **one** box:
- a. ☐ Proposed mine site and operations do **not** comply with local zoning regulations.
or
- b. ☐ Proposed mine site and operations **comply** with local zoning regulations.
4. For the **zoned** site, check **one** box:
- a. ☐ Local zoning regulations do **not** require a local license or permit for proposed operations.
or
- b. ☐ Local zoning regulations **require** a local license or permit for proposed operations.

IMPORTANT: If box **4a** is checked, **skip** questions **5 & 6**. If box **4b** is checked, **answer** questions **5 & 6**.

5. Local zoning regulations require the following type of local license or permit:
-
6. Has the local governing body approved and issued the required local license or permit?
- ☐ Yes or ☐ No

CERTIFICATION BY LOCAL GOVERNING BODY:

Name of Local Governing Body: CITY OF COLUMBIA FALLS

Official's Name: ERIC H. MULCAHY

Title: CITY POWER

Signature: Eric H. Stahl

Date: 7/22/15

SURFACE LANDOWNERS LISTOperator: COLUMBIA FALLS ALUMINUM C.Site: CFAC Borrow Pit

An Opencut mining permit or amendment application must include this form if the application is for either:

- A.** A new permit (MCA 82-4-432 [5]); or
- B.** An amendment increasing the acreage by 50% or more of the amount of permitted acreage in the original permit (MCA 82-4-4432 [11]).

If applicable, the Operator must submit this form to DEQ at two separate points during the application process.**First Submittal** - For the application, the Operator must:

- 1- Provide the names of the surface owners of land located within one-half mile of the boundary of the proposed Opencut permit.
- 2- Compile the names using the owners of record as shown in the paper or electronic records of the county clerk and recorder for the county where the proposed Opencut operation is located.
- 3- Obtain the names no more than 60 days prior to submission of the application.
- 4- Include the landowner of the proposed permit area.

Second Submittal - For public notice, the Operator must provide:

- 1- The names and addresses of the surface owners notified pursuant to public notice.
- 2- The date each landowner was sent public notice.

NOTE: When determining the number of surface landowners eligible to request a public meeting: 1) Multiple parties owning the same parcel of land are counted as 1 landowner. 2) A party owning multiple parcels of land is counted as 1 landowner, regardless of the number of parcels owned.

#	Surface Landowner Name		Mailing Address				Public Notice Date
	First Name	Last Name	Street Address	City	ST	Zip	
1	Val B & Melanie A	White	PO Box 190162	Hungry Horse	MT	59919	
2	Montana Dept. of Transport. (MDT)		PO Box 201001	Helena	MT	59620	
3	Columbia Falls Aluminum	Company	2000 Aluminum Drive	Columbia Falls	MT	59912	
4	U.S. Dept. of Energy BPA	BPA	PO Box 3621	Portland	OR	97028	
5	USA	Dept. of Interior	1709 Jackson St	Omaha	NE	68102	
6	Joesph D	Hauser	7800 Highway 2E	Columbia Falls	MT	59912	
7							
8							
9							
10							
11							

If necessary, use additional sheet(s) to list additional landowners.

Are additional sheets attached? ☐ YES ☒ NO If YES, how many additional sheets are attached? _____By submitting this form the Operator affirms that this ☒ **First Submittal (Application) OR** ☐ **Second Submittal (Public Notice)** was completed pursuant to the public notice section of MCA 82-4-432. (Check One)

Email this completed form in Microsoft Excel format to: DEQOpencut@mt.gov with "Subject" line: **SLL (Operator-SiteName)**.
 Do **not** include a printed version of this form with the paper application submitted to the Helena office.

OPERATOR APPLICATION CHECKLIST

Operator: Columbia Falls Aluminum CompanySite: CFAC Borrow Pit

INSTRUCTIONS

1. Read the document *How to Obtain and Comply with an Opencut Mining Permit*.
2. Obtain current application forms at <http://www.deq.mt.gov/Opencut/Opencutpermitforms.mcpv>. (If outdated forms are received the Operator will be required to resubmit using current forms.)
3. Use the Completeness Checklist below to confirm which documents you need to submit.
4. Use the Acceptability Checklist below to confirm your documents are complete, accurate, and consistent.
5. Submit this checklist and all required application materials to the Opencut Mining Program in Helena.

COMPLETENESS CHECKLIST

All the following documents are required for a complete application, unless an exception listed below applies. Check the boxes at far left to indicate which documents you are submitting. If you believe an exception applies, mark the box at that exception and leave the box at far left empty.

1. ☒ **Operator Application Checklist** - This form
2. ☒ **Opencut Mining Plan of Operation and Application** for: a) ☒ permit or b) ☐ amendment (check one)
3. ☒ **Support Documents** - Use the checklist on page 1 of the *Opencut Mining Plan of Operation and Application* to verify that all support documents required or referenced in that *Plan* are attached.
Exception: ☐ Not required for amendment changing only final reclamation date, hours of operation, or similar procedural aspects that do not alter physical characteristics of site.
4. ☐ **Landowner Consultation** - Required for all land on which Opencut operations are proposed, including the main permit area, permitted access roads, and Non-Bonded areas.
Exception: ☒ Not required if the Operator is also the Landowner.
Exception: ☐ Not required for amendment if not adding acreage and not changing postmining land use.
5. ☒ **Zoning Compliance** - Attach copy of any license or permit required by the local governing body.
Exception: ☐ Not required to mine bentonite, clay, scoria, peat, or soil.
Exception: ☐ Not required for amendment if not adding acreage and not changing postmining land use.
6. ☒ **Surface Landowners List**
Exception: ☐ Not required for amendment adding less than 50% of the permitted acreage.
7. ☒ **Reclamation Bond & Spreadsheet**
Exception: ☐ Not required for amendment changing only final reclamation date, hours of operation, or similar procedural aspects that do not alter physical characteristics of site.
Exception: ☐ Not required for government operators.

ACCEPTABILITY CHECKLIST

1. **General:** Use the table below to verify that all required documents are filled in completely and consistently.
 - For documents 1-2, select **Yes** or **No** in each choice cell below, as appropriate.
 - For documents 3-7: a) if an exception box above is marked, select **No** for that entire row below; or b) if no exception box is marked (i.e. the document is required), select **Yes** or **No** in each choice cell below, as appropriate

Document	Required* Document	All Required Info Provided	Identical information is provided in each document:					Signed & Dated
			Operator Name	Site Name	Section Township & Range	Total Permit Acreage	Acreage Breakdown	
1 Application Checklist	Y	Y	Y	Y	N/A	N/A	N/A	N/A
2 Plan of Operation & Application	Y	Y	Y	Y	Y	Y	Y	Y
3 Support Documents	Y	Y	Y	Y	Y	N/A	N/A	Y
4 Landowner Consultation	N	Y	Y	Y	Y	N/A	N/A	Y
5 Zoning Compliance	Y	Y	Y	Y	Y	N/A	N/A	Y
6 Surface Landowners List	Y	Y	Y	Y	Y	N/A	N/A	Y
7 Reclamation Bond & Spreadsheet	Y	Y	Y	Y	Y	Y	N/A	Y

* - All required info is provided; blanks filled-in; boxes checked; or "none" indicated if that is the correct response.

2. Opencut Mining Plan of Operation and Application:Section A – Application:

- ☒ Answers are complete, accurate, and consistent with maps, support documents, and the rest of the application.
- ☒ #6 - Section Township & Range includes main permit area, permitted access roads, and Non-Bonded areas.

Section B – Pre-mine Information:

- ☒ Answers are complete, accurate, and consistent with maps, support documents, and the rest of the application.
- ☒ The water well table in Subsection B9 is completed; a substitute table is not acceptable.

Section C – Site Preparation and Planning:

- ☒ Answers are complete, accurate, and consistent with maps, support documents, and the rest of the application.
- ☒ Both soil data tables in Subsection C2 are completed; substitute tables are not acceptable.
- ☒ Hours of operation in Subsection C4 were developed with consideration of neighboring land uses.
- ☒ Maps include Operator name, site name, legal description, bar scale, date of drafting, and north arrow.
- ☒ Maps have been double-checked against requirements of the Map Guideline.
- ☒ Microsoft Excel Boundary Coordinates Table has been emailed to DEQOpencut@mt.gov.
- ☒ The main permit area, permitted access roads, and Non-Bonded areas are marked on the ground.

Section D – Water Protection, Mining & Processing:

- ☒ Answers are complete, accurate, and consistent with maps, support documents, and the rest of the application.
- ☒ Proposed measures will protect groundwater quality and quantity (Subsections D1 & D2 in particular).
- ☒ Proposed measures will protect surface water quality and quantity (Subsections D1 & D2 in particular).
- ☒ Proposed measures will prevent significant physical harm to the affected land or adjacent land, structures, improvements, or life forms.
- ☒ Noise and visual impacts on residential areas will be minimized to the degree practicable through berms, vegetation screens, and reasonable limits on hours of operation.

Section E – Reclamation Plan:

- ☒ Answers are complete, accurate, and consistent with maps, support documents, and the rest of the application.
- ☒ All postmining land uses are identified and will constitute a productive use of the site (Subsection E2).
- ☒ Descriptions of proposed ponds are complete, thorough, and consistent with maps, support documents, and the rest of the application (Subsection E3).
- ☒ Revegetation measures are appropriate for the site (Subsection E6).
- ☒ The type and volume of mine material to remain for the Landowner constitutes a productive use of that stockpile area; the material will be accessible by road; and an adequate volume of topsoil will remain for the Landowner to eventually reclaim the stockpile area (Subsection E7).

Section F – Reclamation Bond Calculation:

- ☒ The *Reclamation Bond Spreadsheet* is complete, accurate, and consistent with the rest of the application, including the maps.
- ☐ If asphalt storage and recycling is proposed in Subsection D5, the *Reclamation Bond Spreadsheet* includes costs for crushing the maximum amount of asphalt debris permitted to be on-site. ☒ Not Applicable
- ☐ If creation or importation of supplementary soil or overburden is required, the *Reclamation Bond Spreadsheet* includes funds for those purposes. ☒ Not Applicable

Section G – Certification:

- ☒ The Certification is signed and dated.

3. Bonding (Non-Governmental operators only)

- ☒ The Operator Name and Site Name are identical to the names shown on pg. 1 of the *Opencut Mining Plan of Operation and Application*.
- ☒ The acreage on the bond is identical to the *Bonded Acres* shown in #A1-11 of the plan/app.
- ☒ The bond amount is equal to, or greater than, the *Total Bond* shown on the *Reclamation Bond Spreadsheet*.

Submit this checklist and all required documents to the Program in Helena as one package.